

REMARKS

Claims 1-20, 22-27, and 37-39 are pending in the application, of which Claims 1, 6, and 12 are independent claims. Claims 9, 11, 17, 19, and 20 are withdrawn from consideration, and Claims 1-8, 10, 12-16, 18, 22-27, and 37-39 are rejected under 35 U.S.C. § 103(a).

In particular, Claims 1-4, and 37 are rejected under 35 U.S.C. § 103(a) based on Wilska (UK 2,289,555) in view of Takahara et al. (US 5,436,635). Claim 5 is rejected under Section 103(a) based on Wilska in view of Takahara, and further in view of Shigeta et al. (US 5,394,204). Claims 6-8, 10, 12-16, 18, 22-27, 38, and 39 are rejected under Section 103(a) based on Wilska, in view of Takahara, Shigeta, and Yagyu (US 5,856,814). Reconsideration is respectfully requested.

At issue remains the teachings of Takahara. As now claimed, the Applicants employ a power management circuit to lower the power consumption of a display control circuit. As claimed, image data received by a receiver is input to the display control circuit which generates a display signal including a vertical synchronization signal to drive the matrix display to render the image. A light emitting diode source illuminates the display. The power management circuit lowers the power consumption of the display control circuit between vertical synchronization signals.

As further expressly recited, the power management circuit is arranged to receive control signals for lowering the power consumption, where the control signals result from signals from the display control circuit that are initiated by the display control circuit. The power management circuit and the display control circuit are connected together and arranged in a configuration that lowers the power consumption in a self regulating manner. Base Claims 1, 6 and 12 have been amended to include this limitation. Support for this amendment is inherently shown and described at least in FIG. 2C as well as on page 21, line 31 through page 22, line 14 of the Specification as originally filed.

For example, referring to FIG. 2C, the power management circuit 123 can receive control signals along line 126 from circuit 122 to lower power consumption of the circuit 120. The power management circuit 123 can control power during display operation, including, for example, flash illumination by the backlight during color sequential or monochrome operation. The use of a thin film active matrix circuit can store charge between vertical synchronization pulses which can enable lower power consumption. Since the signals from circuit 122 to the power management circuit are initiated by the circuit 122 and are not originally initiated by a user, (for example in the cited prior art by adjusting a knob), the power consumption can be considered lowered in a self regulating manner.

In contrast, in FIG. 22 of Takahara, a battery 222 provides power to the light emitting tube power supply circuit 223, the display device drive circuit 224 and the reproduction circuit 225. Electrical power to the light emitting tube 211 is provided by the light emitting tube power supply circuit 223. Video signals are provided to the display device 214 from display device drive circuit 224, which in turn receives signals from either the CCD sensor 221 or the reproduction circuit 225.

Takahara modulates the anode voltage to the light emitting tube 211 with a pulse signal, which cycles at 60 Hz to lower the power consumption of the light emitting tube 211, and where the pulse width is varied by manually rotating a variable resistor on the camera (Col. 31, lines 38-40). By varying the pulse width, the quantity of emitted light can be varied proportionately. Using a 50% pulse width, the power consumption of the light emitting tube is said to be reduced to 0.25 W. Adding in the power consumption of the LCD brings the power to “slightly greater than 0.3 W” (Col. 31, 1. 62). Consequently, the power consumption is lowered only when the pulse width is varied by manual user initiated external input and is merely power level setting. There is no lowering of power consumption after the power level setting is made. As a result, there is no structure, capability or suggestion of lowering power consumption in a self regulating manner.

Accordingly, Claims 1-8, 10, 12-16, 18, 22-27, and 37-39, as amended, are not obvious in view of Wilska and Takahara, together, or further in view of Shigeta and Yagyu, since none of the references, alone or in combination, teach or suggest a “power management circuit arranged for receiving control signals for lowering the power consumption, the control signals resulting

from signals from the display control circuit that are initiated by the display control circuit, the power management circuit and the display control circuit being connected together and arranged in a configuration that lowers the power consumption in a self regulating manner”, as recited in base Claims 1, 6 and 12, as amended. Therefore, Claims 1-8, 10, 12-16, 18, 22-27, and 37-39, as amended, as well as Claims 9, 11, 17, 19, and 20, are now in condition for allowance.

Reconsideration is respectfully requested.

Finally, the Applicants point out that an Information Disclosure Statement was mailed on July 30, 1998 and received by the U.S. Patent Office on August 3, 1998, however, the PTO-1449 forms have not been initialed by the Examiner. Copies of the Information Disclosure Statement with PTO-1449 Forms and non U.S. patent references are attached with a copy of the postcard receipt.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By 

Darrell L. Wong

Registration No. 36,725

Telephone: (978) 341-0036

Facsimile: (978) 341-0136

Concord, MA 01742-9133

Date: September 25, 2007